The Medical Times and Register.

VOL. XL. No. 9. PHILADELPHIA AND BOSTON, SEPTEMBER, 1902. WHOLE No. 1021.

ORIGINAL.

CAUSES OF CANCER.*

BY ROBERT REYBURN, A. M., M. D.,

Dean, Professor of Hygiene and Preventive Medicine, Medical Department, Howard University, Washington, D. C.

The first, and probably the most powerful predisposing cause of cancer is senility, or old age, of the tissues and organs of the body. An apparently formidable objection will at once be made to the above statement by citing the well-known fact that cancer is found in young persons, and is sometimes (though rarely) congenital. Whilst this is perfectly true, yet it should be remembered that senility is only a comparative term. Many persons are practically as old in their tissues at twenty or thirty yearsof age as others are at sixty. The real test of old age is not the number of years the person has lived, but the retrograde metamorphosis and degradation which has taken place in the various parts of the body. When we see the arcus senilis in the eye of a patient, or note that he is suffering from fatty, calcareous, arteriosclerotic or other forms of degeneration of the organs of the body, we at once know that this person practically belongs to the class of aged persons, and this important fact must always be borne in mind in the treatment of such a patient.

This same degeneration of the tissues is often inherited, and this is, probably, the reason why the offspring of syphilitics, tuberculous patients, and drunkards often suffer from cancer at an early age. These children, there is every reason to believe, do not inherit the cancer neoplasm as such, but the resisting power of their tissues is so lessened as to form a suitable soil for its growth and propagation.

The vast majority, then, of cases of cancer occurs in persons whose tissues are undergoing degeneration, from either advancing age or senile changes.

*Read before the Medical Society of the District of Columbia. Also published in *Medical Record* of N. Y.

In women about the time of menopause, and in men of a similar age when the duties and labors of life begin to seem to be a heavier burden than they were in youth, this disease becomes more prevalent.

Another curious fact in the increasing prevalence of cancer during the last thirty years. Dr. Roswell Park says that if the present increase of cancer in the United States continues from 1899 to 1903 there will be more deaths from cancer than from consumption, smallpox, and typhoid fever combined. (*Medical News*, April 1, 1889, p. 399). In England, cancer is also increasing. In 1898 there were 25,196 cases of cancer reported, or 902 per million of the total population. The male rate was 19 6-10 and the female rate was 10 per cent. greater than the average of the past ten years. (*Philadelphia Medical Journal*, April 21, 1900, p. 887.) In Germany the same fact is noted: In 1898 there were twice as many cases of cancer (relatively to the total population) as there were in 1879. (*Medical Record*, May 17, 1902, p. 776.) This relative increase in the number of cases of cancer is found to exist at the present time in all civilized countries, and it should be noted that this, coincident with the great improvements in the diet and hygiene of the population of our great cities, when compared with their condition during past generations.

We would not wish, however, to be misunderstood, or to assert that the increase of cancer is due to the improved hygiene and diet of the present generation, but we believe it to be due to the overconsumption of a particular kind of food about which we will speak more in detail hereafter.

Cancer *per se* is not a disease which prevails extensively in hot climates or in the tropics. Especially is it comparatively rare among those races inhabiting hot climates who live almost entirely or wholly upon vegetable foods. In Borneo the disease is unknown. Dr. A. B. Dalgetty says that he has never seen a case of malignant disease of the mamma in a native of India. He wonders whether the constant presence of malaria in these countries has anything to do with it. He also calls attention to the want of pressure upon the breasts of the Hindoo women by their thin and light clothing, and also to their habit of suckling their children until their breasts are literally sucked dry. Such a gland would appear less likely to undergo perverted action than a gland arrested while its function is still in full force. The inhabitants of certain parts of China, and Burmah suffer comparatively little from cancer, and in certain localities in these countries it is very rare. What is the cause of this comparative exemption? The facts would seem certainly to warrant the assertion that a diet of vegetable food is inimical to the development of cancer.

The second predisposing cause of cancer that we would mention is the habitual use of the various forms of alcohol as an article of diet. No one can deny the enormous amount of evil that is done to the individual who partakes of it, and also to the community as a whole by the use of alcohol as an intoxicant. But there is a more insidious and more dangerous effect upon the tissues of the body by smaller quantities of alcoholic drinks (when taken regularly) than is generally recognized. The dilute forms of alcohol enter into the blood and thence

circulate through every tissue and organ of the body. What is the effect of this? The alcohol, by powerful affinity for the water of the tissues, dehydrates and prematurely hardens them. Not only this, but alcohol is a retarder of waste in the body. In other words, it diminishes the metamorphosis of tissue, it hinders the separation from the tissues of the body of those effete and waste products which should be eliminated. These used-up and waste matters are retained in the body, and tissue hardening and degeneration of organs is the result. If we may use the simile, the fuel is all ready for a spark to kindle it; and if we have a local irritation, a traumatic injury, or necrosis, of the living tissue, a malignant or other neoplasm may result.

The above remarks do not apply to the drunkard; we all know what his fate will be. Many persons live daily under the influence of and die from the effects of alcoholic drinks, who were never suspected during their lives (except by their physicians) to have ever used them.

The daily use at meals of the various bitters is essentially nothing more than a thinly disguised tippling under the form of medication, and produces its dire effects in the course of time, especially when, at the same time, little or no bodily exercise is taken.

The third and most important predisposing cause of all we believe to be the consumption of too much meat and nitrogenized food. If we consider the uses of meat as an article of diet, we will speedily see that it is taken to supply the waste of the muscles and other nitrogenous tissues of the body. In persons leading inactive lives, the consumption of bodily tissue is at a minimum, and hence they need very little meat or nitrogenous food. If these same persons are habitual consumers of alcoholic drinks, even in small quantities, their power of assimilating meat is still farther decreased. In fact, as people advance towards the close of life, their needs for food, and especially for the nitrogenous parts of it, are lessened, and the amount of food given to such persons should be diminished.

Sir Henry Thompson, who is now past eighty-two, says that in old age we ought to diminish the amount of food taken; he further says that half of our ills in old age are due to overfeeding. He also advises, and has practised in his own person, total abstinence from alcoholic drinks. In persons who consume large amounts of nitrogenous food, even when they are habitual users of alcohol, the frequency of cancer is greatly diminished when their avocations require them to take a great deal of exercise, or when they perform hard manual labor. In forty-six years of continuous practice I have seen very few cases of cancer (with the exception of lip or tobacco cancer) occurring among men who live in the open air. The reason, no doubt, of this is that the waste materials produced in the body are, by hard manual exercise, burnt up and consumed.

EXCITING CAUSES OF CANCER.

The theories on this subject are many and various. I shall consider at this time only three of the most important.

1. The theory of Dr. Braithwaite, who recognizes that four chief factors enter into cancer production, viz., over-nutrition, non-oxidation of ingested food, local irritations, and excess of salt in the diet. This last he consid-

ers the most important and always present, though it requires the co-operation of at least one, and probably two, of the other factors to make it efficient. The suggestion of the importance of salt as a factor came to him from noticing the infrequency of uterine cancer among Jewesses, whose religion excludes salt pork from their diet. Other considerations in favor of this view in his estimation are the absence of H Cl in the vomit of gastric cancer, the fact that salt is a most powerful stimulant to all metabolism, the local prevalence of cancer in certain districts and among certain populations where salt is a specially important element in the diet, together with an excess of nitrogenous food, etc. "Cancer-houses are," he says, "probably merely houses where there is accommodation to keep a pig, and where the diet consists of a great deal of bacon, or where a great deal of butcher's meat is consumed, and with it, of course, salt, or where the inhabitants are old, but their appetites are still good; or where they are women and live well, but lead indoor lives, so that the food is not well oxidized." He believes that with the increase of cancer reported of late years it will be found that there has also been a great increase in the consumption of salt.

2. The theory of Dr. Harry R. Gaylord. Gaylord has reported that he has found the protozoon of the disease in the pathological laboratory of the State of New York. Whether his theory will stand the test, time alone will determine. Gaylord injected cancerous tissue into the jugular vein of a dog, which died twenty-two days after with a distinct cancer in the lung. He also found that the so-called cancer-protozoon and vaccine bodies developed alike when injected into the cornea of a rabbit. In his experiment Gaylord used the fluid from the peritoneal cavity of a patient operated upon for cancer, and from this obtained a pure culture of the protozoon in its hyaline form. One hundred animals were inoculated by him, and the same organisms were recovered from different organs in every case examined. In twelve animals distinct cancers were found.

3. The theory of Dr. Lambert Lack of England who believes that cancer is produced by an abnormal development taking place in normal or healthy epithelium, when invading the lymph spaces of the body. In confirmation of this theory, he adduces the results of his experiments with rabbits and other animals. In a number of cases, by introducing healthy epithelium into the abnormal cavities of rabbits, he succeeded in developing cancerous tumors. (*British Journal of Pathology and Becteriology,* 1900, p. 154; also quoted in the *Medical Record,* Sept. 1899, p. 345.)

Dr. Konstanowitch has also succeeded in producing growths not dissimilar from granuloma, and containing epithelioid and giant cells, by inserting spores of lycopodium under the skin. (*Philadelphia Medical Journal,* June 8, 1901, p. 1067.)

Whatever theory we may adopt as to the causation of cancer, there are two facts that seem to be now generally admitted. The first of these is that it is probably always local in its early stages, and the second is that its origin is due to an injury or local irritation of the part affected.

Finally the writer wishes to summarize by giving the following facts

which seem to him to express the history of the causation of cancer:

1. Cancer is a disease of senility or decay of the tissues or at least occurs at the time when the retrograde metamorphosis of the tissues is taking place.

2. Cancer is comparatively rare in hot climates, and especially where the diet of the inhabitants is composed chiefly of rice, or other starchy foods.

3. Cancer at the present time is very prevalent where animal food is largely consumed; the number of cases of cancer has been found to increase in proportion to the increase in the consumption of nitrogenous or animal foods.

4. The theory of Gaylord that cancer is caused by a protozoon or animal microorganism seems to be disproved by later investigations, and the probability is that cancer is simply erring epithelium, which has taken on an abnormal growth and development.

THE IMPROVEMENT OF BREAST-MILK AND THE PROLONGATION OF LACTATION.**

THOMAS S. SOUTHWORTH, M. D.,

Attending Physician Nursery and Child's and Randall's Island Hospitals; Physician Out-Patient Department, Babies' Hospital, New York City.

Of the various functions of the human body, none has been so neglected as that of lactation. It is true that human breast-milk has been repeatedly analyzed and its component parts estimated with somewhat varying results, but the ever-prominent purpose of these investigations, from the time of Meigs, has been to establish a standard upon which imitations might be based, while but comparatively little thought has been given to measures which should serve to correct a deteriorated secretion.

Nursing to the minds of the laity is a very simple matter, consisting only in putting the child to the breast at any regular or irregular intervals, which may seem best to them, the chief indication therefor being the crying of the child. If, however, the breast-milk begins to fail or appear to disagree with the child, the common thought in the minds of both friends and physicians has for years been to find at the earliest moment some fairly satsfactory method of substitute feeding.

ELABORATE CHEMICAL ANALYSIS UNNECESSARY.

Only recently a writer on pediatrics has emphasized this by claiming that if the breast-milk does not seem to be suitable, a careful chemical analysis should be made; but if this proves the milk to be abnormal what does he suggest? To restore the breast-milk by appropriate means? Not at all—not a word of this, but to give the child bottles. If that is the sole purpose of a chemical analysis of breast-milk, why go to that expense at all? Why not give the bottle at once?

Chemical analyses of breast-milk are certainly of great assistance at times if proximity to a competent chemist and the means of the client allow—but undoubtedly this insistance upon analyses as all-important has obscured the main issue, and acted as a deterrent upon many a busy practitioner who is too distant from the laboratories, or whose patients can ill afford such examinations.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. H. M. McClanahan, Edwin Rosenthal and Samuel W. Kelley.

** Published also in Journal of American Medical Association, August 2nd, 1902.

There are, to be sure, simpler ways of arriving at an approximate estimate of the quality of breast-milk. Holt has given us a very useful and inexpensive apparatus. The centrifuge now in common use for urinary analysis is at present fitted with miniature tubes resembling those of the larger Babcock machine for accurately estimating the percentage of fat. If neither of these is available, even a little experimentation with a few samples of breast-milk set aside for 24 hours in a narrow-corked test-tube will train the eye to detect an excessive or deficient cream layer. The specific gravity can be taken with any small urinometer. A few rules only need be learned. The normal specific gravity is 1031. High fat lowers the specific gravity. Low fat raises the specific gravity. Therefore a high specific gravity with high fat indicates excessive proteids.

THE CAUSES OF POOR BREAST-MILK.

So much for what we can do if we desire the satisfaction of an analytical demonstration. Practically, however, these tests are only necessary in exceptional cases. In the vast majority of instances, the milk of a healthy mother who takes sufficient out-door exercise, and eats sensible, plain food, supplemented with abundant nutritious fluids will scarcely ever fail to agree with her child. This is the whole matter in a nutshell: If the breast milk is scanty or appears to disagree with the child, either the mother is out of health, anemic or constipated, she is securing too little fresh air and exercise, she is taking too little fluid food of the right kind, or she is not upon a plain, sensible diet. No elaborate analyses are necessary to determine these matters. A few direct questions will put the busiest practitioner in possession of the facts, and a little common-sense advice to the mother, with enough insistence to ensure its being strictly followed, will be productive of the happiest results.

The principle enunciated above is so extremely simple that the almost universal failure to appreciate and apply it is the more surprising. The intelligent dairy-man takes every possible care that his cows are healthy, well-fed, well-watered, and well-cared for in order that they may give a proper quantity of milk of good quality. To aid him, experimental stations all over the country are working out these problems to the third and fourth decimals, but from time immemorial the nursing mother has been left to work out her own salvation. Yet the principles governing successful lacation in these two mammals are sufficiently similar to form a very close analogy, and such differences as do exist arise chiefly from the kinds of food suitable on the one hand for an herbivorous, and on the other for an omnivorous species, the latter being in this case of a highly organized type. Without carrying this comparison further, except as it will be apparent to the thinking mind in what follows, let us proceed at once to consider how a normal supply of maternal breast-milk may be best produced and maintained.

THE DIET IN LACTATION.

Aside from the attention which the nipples may require during pregnancy, the supervision of lactation should begin almost immediately after childbirth in the administration of abundant fluid nourishment, which should be continued as long as the mother nurses her child, for as the quantity of the milk increases the greater the need of supplying fluids freely. Semi-solid food is now given on the second day

after parturition, and plain nourishing food in an uncomplicated case on the third day. By this time the abundance of fluid food has had an opportunity to restore the depletion of the tissues and to thoroughly flush the system of the waste products, diluting the usual dark concentrated urine of this period, and the mother is in a better condition to secrete a milk free from noxious principles.

Experience has demonstrated that it is not enough to order such fluid food, but that the necessity for its being taken freely should be made clear to both nurse and mother in order to secure their intelligent cooperation. Thirst is no reliable guide to the quantities required.

THE FLUIDS TO BE USED.

Tre four fluids upon which the mother should depend throughout lactation, to the practical exclusion of all others, are in the order of their importance as follows:

1. *Milk.*—Of this she should drink a quart or more in the twenty-four hours. No argument seems necessary to show that this furnishes in the simplest form the materials needed for milk secretion.

2. *Thin corn-meal gruel.*—This is best made of yellow meal and requires long and thorough cooking and judicious salting to make it most acceptable. It may be prepared with or without milk, but always of such a consistency that it may be drunk from a bowl twice or three times a day. Unless carefully specified the tendency is to make a mush and to eat it with a spoon or to drink small quantities from a cup, both of which defeat our purpose and lessen the quantity of fluid ingested. The use of corn-meal is somewhat empirical, suggested by its use in the feeding of milch cattle, but its value in restoring and maintaining a deficient milk has been proven beyond conjecture. It is infinitely superior to oat-meal gruel as a milk maker.

3. *Water.*—This should be taken freely throughout the day, keeping in mind the fact that the nursing mother requires on the average at least three quarts of fluid in twenty-four hours for the proper carrying on of the excretory and secretory functions.

4. *Cocoa.*—If made by prolonged boiling of the cracked cocoa nut, cocoa is a helpful stimulant to secretion, but also as a warm beverage it should displace tea and coffee. Tea, especially, should be prohibited, for it is not only valueless, but is in many ways distinctly inimicable to proper lactation. Many of my most favorable results in difficult cases have been obtained by stopping tea and substituting milk, corn-gruel and cocoa in liberal quantities.

The remainder of the diet should consist of such plain nutritious food in fair variety as the mother knows by experience to agree with her digestion.

Beef has but little nutritive value and often disturbs the infant. Malt extracts, which are blindly relied upon by the laity, I use but rarely except where analysis has shown the milk to be very deficient in fat. With the fluid diet recommended above, they are usually unnecessary and there is always a tendency to expect the malt extracts to do all, and so to neglect the really important things which furnish the necessary raw materials for manufacture by the mammary glands.

CONSTIPATION AND ANEMIA.

While it is often better by the avoidance of direct medication to demon-

strate conclusively to the mother that her breast secretion is directly dependent upon her diet, two matters frequently require our attention—constipation and anemia. Anemia is not in itself favorable to the proper performance of any bodily functions including that of digestion. It exists, as a rule, after child-birth and is with about the same frequency neglected. This must be corrected before we can expect the mother to do her best for her child. Blaud's pill is an excellent form of iron, either alone or guarded by cascara, which is the most suitable laxative for nursing women.

Sleep, exercise and fresh air are each of great importance. The former may be provided for by the reduction of the night nursings to a minimum, and with nervous women by removing the child to another room under the care of the nurse.

EXERCISE FOR THE NURSING MOTHER.

If, with regular hours of nursing, the infant vomits, shows evidence of colic, and has disturbed stools, the natural deduction is that the proteids of the breast-milk are too high. To remedy this, nothing is so surely effective as walking daily, gradually increasing distances, in the open air. This enables the mother to oxidize and burn up her nitrogenous food more completely and reduces the secretion of proteid material. Such exercise should always fall short of actual fatigue, and where this is caused by even short walks, daily driving out of doors has proven a successful substitute. Custom among women of means, the care of the child among the poor, and maternal devotion and solicitude in both classes tend to keep the mother at home during the early infancy of their children unless the necessity for out-door exercise is insisted upon. A fair amount of such daily exercise is, however, in all cases a part of the mother's duty to her child, for without it she can not maintain the best of health.

THE BASIS OF THE AUTHOR'S CONCLUSIONS.

The experience on which I base my views has been derived from close attention to this subject, and constant application of these principles for the past three years in private, out-patient and hospital practice, in all of which frequent accurate weighings of the infants have been made so that the results have not been conjectural, but demonstrated by the evidence of the scales, as well as by the normal stools and evident well-being of the infants.

Numerous cases could be cited here, were my time not limited, exemplifying the successful application of these principles, as where an infant after its initial loss in weight after birth made no gain in weight for ten days, but promptly began to do so normally as soon as the extra fluid nourishment was given the mother; or frequent instances where the milk began to fail, as shown by the flabby condition of the breasts and weighings of the infant made before and after nursing, but was restored by the same means.

SUCCESS FROM PATIENT PERSEVERANCE.

I am convinced that in the majority of those far too common cases where the breast-milk gives out in the first few weeks, this could be prevented by properly feeding and caring for the mothers, the more so because such failures as I have observed have been in those cases where there was some insuperable obstacle to the carrying

out of these measures in their entirety.

Where it is necessary to build up the mother's health by iron and exercise, the failure of the child to make immediate gains should not discourage us, provided the weight is only stationary and the child not really suffering. At such times the natural anxiety of the mother, which only serves to increase the difficulty, should be combatted by confident assurances of ultimate success. If, however, the child continues to lose weight seriously, judicious supplementary feedings should be employed, and these may often be discontinued later. An important point in this connection, and one often overlooked, is that when supplementary bottle feedings are given because of scanty milk, the mother should give both breasts at each nursing, that the quantity obtained may be greater and also more especially that the needed stimulation of the breasts by the child shall not be diminished in frequency. To this we shall have occasion to recur later.

Up to this point we have spoken chiefly of the period of the few weeks following the birth of the child, and this is indeed the most important, for it is the new-born infant which suffers most from being deprived of its natural food. Every pound which it gains normally at the breast increases its chance of life and its ability to meet digestive problems which may arise later.

The next most frequent period at which babies are presented for treatment for supposed difficulties arising from the breast-milk is during the third or fourth months. Here it is, perhaps, less likely to be a question of high proteids and indigestibility of the milk, but rather a scanty supply or bad nursing habits, which are the sources of the disturbance, and may even have raised the question of weaning and a change to artificial food. Here the weight of the child gives us valuable information, for if that corresponds fairly to the age, showing that the child has been growing since its birth, we may feel quite sanguine of overcoming the difficulties with the co-operation of the mother, for irregular or too frequent nursing, or lack of a proper maternal diet will usually prove to be the cause. Even if the baby vomits and has poor stools and is said to have colic, the institution of a rigid schedule of nursing hours for the baby, and attention to the diet and hygiene of the mother will generally remove the difficulty.

If the child is continuously gaining weight, habitual spitting up after nursing need cause no alarm, and indeed may be entirely disregarded if the stools are good, but even poor stools with steady gain in weight usually straighten out if the mother will follow directions. Infants are very commonly dosed by physicians and further upset when in reality all that is necessary is to instruct and treat the mother.

SUPPLEMENTARY ARTIFICIAL FEEDING.

If the child's weight is stationary we are still safe in waiting for the effects of the mother's new regime, but if the child is losing weight, or its condition has been poor for some time it then becomes a question of building up the inadequate breast-milk and thus prolonging lactation, and we must make up the deficiency of nourishment required for growth by additional food from the bottle.

Experience has shown that this may be given in two ways; either by giving a small quantity of suitably modified cow's milk after each scanty nursing, or else by making two or more of the feedings exclusively from the bottle while the others are supplied from the breast. Both of these plans we pursue with success in the Nursery and Child's Hospital, but the latter is probably the safest, for where a bottle feeding at one nursing hour is followed by the breast at the next, indigestion is less liable to occur. If three or more bottles have to be given, both breasts should be offered each time the child is nursed else the milk may rapidly leave the breasts.

Not only are many children artificially fed because the breast-milk has failed, when this might have been prevented or restored, but also too many children are taken from the breast because the mother's milk falls just short of being sufficient. Such children may evidence by their actions at the breast that they are not satisfied, they may fail to gain satisfactorily, or they may show some disturbance of their stools. Yet it is the height of folly to abandon anything so valuable as breast-milk for the sole reason that there is not enough of it. Instead of seeking, under such circumstances, to find some other nourishment for all the feedings, as is so frequently done, is it not ordinary common sense to supply the deficiency by an occasional bottle and so hold on as long as possible to that which we know to be of incalculable benefit to the child? There is no question but that the latter plan has the advantage of simplicity and that it is fraught with much less danger than the rapid or immediate substitution of an exclusively artificial diet. It gives opportunity for the cautious adaptation and gradual increase in strength of the one, two or more supplementary bottles of modified cow's milk which the child may need. Let us get rid at once of the old groundless view that because milk is scanty it is bad. Half rations are not bad for a ship's crew—they are only inadequate.

EVEN A LITTLE BREAST-MILK IS VALUABLE.

On the contrary, human breast-milk is very thoroughly utilized by the infant and furnishes substances for its proper development which are not contained in other foods or even in cow's milk. Infants will often thrive and gain in weight for considerable periods upon a quantity of breast-milk much smaller than the quantity of modified cow's milk which would be necessary to accomplish the same result. It is surprising with what frequency one bottle each morning and afternoon turns the scale for a normal gain in weight when the breast-milk has proven insufficient. Of course, the mother's diet and health require the same careful attention which has been recommended, and with such care my records show numerous cases where she has later been able to resume exclusive nursing. However, that is not necessary to the fulfillment of our purpose, which is to prolong even a partial lactation as far as possible through the first year of life. Babies so fed, in part at least, from the breast are more normal and have less illness than those which are exclusively bottle-fed.

At the risk of repeating what I have said more fully upon this subject elsewhere, I maintain that the parent or

the physician who takes a child from the breast and puts it entirely upon other food, without having exhausted every available means to maintain the breast-milk so that the child may at least receive it in part, assumes a grave responsibility and is giving a hostage to the grim destroyer, for the chances of fatal illness and death are statistically proven to be greater among those children who receive the bottle alone. Even moderate malnutrition, anemia, mild rachitis and slight chronic digestive disturbances, dependent on such artificial diet are often the determining causes of a fatal issue from some malady which a breast-fed infant would have survived.

47 West Fifty-sixth Street.

Berlin authorities have issued an order to the public houses prohibiting them during the excessive hot weather from selling drinks below a temperature of 50 degrees Fahrenheit.

Prof. Lannelongue recently stated, at a meeting of the Academie des Sciences, Paris, that an Egyptian mummy of the eleventh dynasty, dating back about 5,000 years, showed the results of an operation for appendicitis.

Dr. J. N. McCoy, of Vincennes, Ind., took a number of negroes from quarantine to vote. The local board of health prosecuted him, but the circuit judge found that there was no penalty for the alleged crime. The case will be appealed.

The sleeping sickness of Uganda will be studied by a commission which has been sent from London. The disease has killed 40,000 people in Busoga; and in the district of Kragone 400 deaths in two months and 2,000 in six months have been reported.

Superintendent Kimball, of the Life-Saving Service, has received a report from Captain Ludlam, of the Hereford Inlet Life-Saving Station at Anglesea, N. J., to the effect that Stanley Holmes, 5 years of age, was resuscitated after being under water for 25 minutes. It is said that the superintendent has investigated the case and finds the time corroborated by all the witnesses, including a nurse.

Dr. Orlando E. Miller, of Chicago, who has just been arrested at the instance of the State Board of Health, on a charge of practicing medicine without a license, was the proprietor of the St. Luke Sanatarium, in which ten men were recently burned to death. He has had a varied career, in which he has figured as an editor, a grocer, a patent medicine man, and a president of a branch Y. M. C. A.

Latest reports received from the chief quarantine officer for the Philippines, show plainly that up to the time of writing little progress had been made against the ravages of cholera. In some of the villages, he says, one-tenth of the entire population have died from cholera. The report for Manila from May 25 to June 7, inclusive, shows a startling number of fatalities, larger in proportion even than in the provinces for the same period. During these two weeks there were reported 132 cases and 118 deaths. In the provincial towns for the same period there were 1,108 cases and 722 deaths. In Manila during these two weeks four Americans were attacked by the disease, but no fatalities were reported.

The Medical Times and Register

is published monthly.

ENTERED AT the Philadelphia Postoffice as second-class mail matter.

ADVERTISING RATES may be had on application to The Times Publishing House, Parkesburg, Pa., or to the Philadelphia office, 1602 Arch street.

REPRINTS of Original Articles are not furnished except on payment of cost price by the author.

SUBSCRIPTION PRICE IS $1.00 a year in advance. Foreign countries, $1.50. Single copies, 10 cents.

ALL COMMUNICATIONS, reviews, etc., intended for the editor should be addressed to 367 ADAMS STREET, DORCHESTER, BOSTON, MASS.

THE MEDICAL TIMES AND REGISTER is published by The Medical Publishing Company, 1602 Arch St., Philadelphia, to whom all remittances should be made by bank check, or postal, or express money order, or to J. Ernest Paxson Business Manager, Parkesburg, Pa.

ORIGINAL ARTICLES of practical utility and length are invited from the profession. Accepted manuscripts will be paid for by a year's subscription to this journal and one hundred extra copies of the issue in which such appears if desired.

Editorial.

CURABILITY OF PHTHISIS.

At the Hufeland Society, Hr. Hausemann discussed the subject of the curability of phthisis. He made a distinction between pulmonary phthisis and pulmonary tuberculosis. There were quite a number of cases of phthisis in which tubercle bacilli were never found. In chronic bronchiectasis and in fibroid phthisis to which inhalation diseases belonged, tubercle bacilli were absent. It was the same with tuberculous and reticular lymphangitis. In pneumonia in rare cases there arose an ulcerous phthisis, which was more frequent in recent years, perhaps under the influence of influenza. Further, syphilitic phthisis, which was readily complicated by tubercle, had been for long denied. Finally, there was actinomycotic phthisis with peculiar widespread infiltrations, which in certain spots passed on to suppuration; fungi readily developing in the increased connective tissues.

These cases, which on the whole, especially when the disease was extensive, were very curable, with the exception of syphilitic phthisis—the speaker excluded from discussion, dealing only with tuberculous phthisis.

Recovery from this condition depended simply on the anatomical changes that had taken place; the bacteriological changes did not come into play. Typhoid and fibrinous pneumonias were curable in a marked manner. The changes that had taken place as the result of the disease were recovered from after the cessation of the disease. Pulmonary phthisis must be considered separatively. This was not a simple disease, but a group of different diseases which were intermingled.

The ordinary form of pulmonary phthisis began almost invariably in the apices. The apices were free only under exceptional circumstances. In diabetes, which led to pulmonary phthisis, one also saw the process commence occasionally in the middle lobes, the apices being untouched. As a rule it took its origin from one of the smaller bronchi; a tuberculous ulcer appeared, which developed and set going the tuberculosis. The disseminated form was frequent, this developing rapidly and spreading over the whole lung. On section, what appeared to be a miliary tuberculosis was seen, but they were really sections of bronchi.

A second form, which was allied to the pneumonic process, was caseous hepatization, wherein smaller or lar-

ger areas were infiltrated with caseous material. Sometimes a whole lobe was filled by it. Another form was the caseous broncho-pneumonia in so-called rosette form, in the centre of which the lumen of a bronchus appeared. Sometimes a collateral inflammation with gelatinous exudation appeared in the neighborhood of a tuberculous patch.

A form that did not end in recovery was the acute, with suppuration and wholesale destruction of lung tissue.

Theoretically considered the tuberculous changes were as curable as in intestine, peritoneum, and even the membranes of the brain. Limited tuberculosis of the lung was curable, but if destruction of a large part of the lung had taken place it was difficult for recovery to ensue. Miliary tuberculosis theoretically considered was curable, but it was part of a disease that affected the whole system. The caseous hepatization might clear up. That this discovery was not accompanied by *restitu ad integrum* was self-evident. A cicatrix must remain at the spot.

Even cavities might heal. When small they might even disappear. Large cavities became smooth-walled and covered by epithelium.

It was further to be considered that only phthisis with lesions in the upper lobes healed. The speaker had never seen tuberculosis of the middle and lower lobes heal. If one looked at preparation of healed phthisis more was found destroyed than one believed from a first glance, because the healthy part had increased by way of compensation and appeared larger than it was in reality.

Some cases had led to controversy. One occasionally found caseous patches in the cicatrices. It was known that the caseous masses might calcify and form concretions. They were surrounded by connective tissue and encapsuled. Not unfrequently tubercle bacilli, which were virulent, were found in old remains. These did not die as assumed by Cornitin three years ago, but remained active. The cavities also might become encapsuled. Sometimes virulent bacilli were found in the walls, as in the case of a man of seventy-eight. The speaker had shown this man as a cured case. According to his view, a case was cured when the disease had passed on to a stable condition. When caseous matter and tubercle were embedded in such a firm mass that the tubercle bacilli could not pass out, one might consider the case cured. The same might be said of cavities when the bacilli within could only vegetate as saprophytes and could not set up fresh changes. The speaker reported such a case, that of a gentleman who had formerly had hemoptysis, but who for years had shown no further symptoms. There was a cavity which had probably become encapsuled. Of course the condition might light up again, particularly from some intercurrent illness.

The speaker then passed on to the characteristics of tuberculous cicatrices as compared with others. The badly resolved pneumonia left cicatrices which never, however, lay in the apices, They spread superficially. Syphilitic cicatrices presented the greatest difficulty. There were cases of syphilis which left cicatrices not to be distinguished from those of tubercle. But syphilitic lesions were necrotic in some parts, and from this character they could be identified. Sometimes these cicatrices were extraordinarily charac-

teristic. They were limited to lymph tracts and formed reticular tissue.

Hr. Sommerfield had studied small patches of disease, and found even when very small, that they were surrounded by small-celled infiltration, a sign that the process had extended.

Hr. Hausemann would not look upon a small-celled infiltration as premonition of the tuberculous process. When these lungs were examined microscopically, many such were found. Elderly people had rarely an absolutely sound lung. Towards the end they had edema, aspiration, pneumonia and bronchitis. It was not infrequent that during life nothing particular was found, whilst after death one came upon caseous infiltration, giant cells, etc. Most people over sixty years of age had some tuberculous change in the lungs, especially if the lymph glands about the hilus were examined. —*Berlin Cor. Med. Press and Circular.*

OPHTHALMOLOGY.

In charge of A. J. TENNY, M. D. Boston.

Dr. Edgar S. Thomson (Pediatrics) sets forth the bacteriology of conjunctivitis and the different methods of staining. The pneumococcus is frequently found in acute, contagious conjunctivitis, commonly called "pink eye," but the Weeks bacillus is the most common bacterium in this disease. It does not take as deep a stain as many bacilli, hence the slides require close examination.

Mr. T. V. Powderly, Commissioner General of Immigration, (*No. Am. Review*) calls attention to the efforts of the United States' authorities to exclude such diseases from the country as favus and trachoma. As the latter disease is distinctly contagious, and is often a menace to eyesight, the importance of excluding immigrants affected by it is apparent.

Dr. Richard Derby recently examined over 2000 pupils in the public schools of New York City, and found more than twenty per cent. to be suffering from contagious eye diseases. Five per cent. were so bad, that operative interference was necessary. Children so affected mingle indiscriminately with others in the public schools.

Trachoma is very prevalent in Russia, Syria, Italy and Armenia. At the present rate of immigration of cases affected with the disease, it may well be questioned whether it is not a serious menace to sight in this country.

Notwithstanding the influx of immigrants affected with trachoma into our large cities, it is a fact that more than twice as many patients come to our blind asylums from the country as from the city. This shows that the facilities for treating eye diseases are superior in the great centres; which superiority can hardly be sufficient to keep up the balance if we continue to import contagious cases.

Dr. J. Morrison Ray (*Med. Rec.*) finds that in wounds of the sclera overlying the ciliary body, it is more necessary to excise protruding tissue than when the iris alone is involved. Sutures penetrating the sclerotic are a source of irritation. He advocates, with Pagenstecher, covering the incision with conjunctiva. He thinks, if the eye heals kindly, the danger from sympathetic ophthalmia in the other eye is remote.

Badal (*Gaz. Hebd. de Bordeaux*) reports that he succeeded in arresting

cataract in three patients, and that the process has remained absolutely stationary for two or three years. In two cases he used an eye bath of a 1-40 solution of potassium iodide for one minute night and morning. In the other he employed a collyrium of a 1-40 solution, alternating with sodium biborate.

Dr. James L. Minor (*N. Y. Med. Jour.*) cites a case of acute glaucoma that was treated as a case of bilious fever. Sudden and severe pain was felt in one eye, which spread, until it included the head and entire body. Calomel, quinine and opiates were given by a general practitioner, and the patient was soon up; but the eye was absolutely blind. Dr. Minor was called when the other eye was attacked one year later, causing nausea, vomiting, temperature 102, pulse 120. An iridectomy quickly remedied the difficulty, and saved the vision of that eye. The general practitioner too often thinks a local disease is general because it has symptoms that go with t general disease.

MISCELLANEOUS.

XEROFORM.

In a paper "The First Dressing on the Battlefield," read at the XXXI. Congress of German Surgeons, Berlin, (*Munchener Med. Wochenschrift,* April 15, 1902), Privy Councillor Paul von Bruns, Professor of Surgery and Director of the Surgical Clinic at Tubingen University, and Surgeon General a la Suite German Sanitary Corps, recommends, especially for the treatment of bullet wounds, a salve of Xeroform kept in zinc tubes, in which it will not decompose. This salve is to be of the following composition:

Xeroform,	10 grams	(2½ drams)
Bal. alb.,	50 "	(13 ")
Mucil. gum Arab.	20 "	(5 ")
Glycerin.,	20 "	(5 ")

F. pasta mollis. In zinc tube.

Prof. v. Bruns condemns impermeable dressings which prevent desiccation of the wound, and recommend Xeroform because of the disadvantages of iodoform and salicylic powders.

Dr. Herman Kuttner, Prof. of Surgery and Assistant at the Surgical Clinic of Tubingen University, who took part in the Boer War, in a paper on "Shot Wounds of the Extremities" (*Aerztliche Kriegswissenschaft,* p. 174, Gustav Fischer, Jona, 1902,), says the following:

"'The first dressing decides the fate of the wounded'; this old maxim of Volkmann will never lose its significance. How first aid on the battlefield is to be applied, is not the subject of this paper; I will rather confine myself to a few salient points in the treatment of bullet wounds of the extremities. For this purpose I recommend the Bruns pastes. Especially useful is the Xeroform salve (according to the investigations of Honsell, Xeroform has a greater antiseptic power than airol), for it does not decompos in zinc tubes. This container has the advantage that every ambulance surgeon can carry it in his pocket and have it ready to express the salve upon the wound. If the ointment is then covered with gauze or cotton, a pervious and antiseptic dressing which answers every requirement has been prepared."

The value of Xeroform in army surgery is also attested to by Dr. Emilie

Noguera, Surgeon-in-Chief of the Spanish Army Sanitary Corps, (*Revista Medicinary Cirurgica Practicas*, Madrid, April 25, 1899), who used it during the Spanish-American War and states:

"I had the satisfaction to find all the wounds entirely aseptic when the Xeroform dressings were removed. This is practical proof of the fact that this simple Xeroform dry dressing can be employed on the battlefield itself to keep wounds aseptic for from two to three days; a length of time more than sufficient for the removal of patients to the hospital."

At a stated meeting of the New York County Medical Association, held May 19, 1902, Dr. Edward L. Keyes, Jr., presented a paper on "The Therapeutic Use of Suprarenal Extract in Diseases of the Genito-Urinary Tract." The author expressed the opinion that suprarenal extract had only a restricted application in this department of surgery. It was useful, for example, in preventing the troublesome bleeding often associated with the simple operation of meatotomy, but even here he felt it necessary to insure against subsequent bleeding by the application of Glutol, a compound of formaldehyde and gelatin. (*New York State Journal of Medicine*, June, 1902.)

Wm. Francis Honan, M. D., New York, (Sherman Sq.) said:

"The ages of the diabetes treated with Allouez was from 40 to 81 years. Sugar from one to four per cent. A diet was followed. Doctor, I am very much pleased with this water in diabetes. You suggested I advise you as to my experience." (Letter to Dr. Egbert, Guernsey, New York.)

ANUSOL IN THE TREATMENT OF HÆMORRHOIDS.

BY JOHN MOIR, L. R. C. P. & L. R. C. S., ED.

(Abstract from *The Therapist*, London, June 14th, 1902.)

In the case of patients suffering from piles, whether the hæmorrhoids are newly formed or chronic in character, whether small or large, even up to large venous knots hanging from the rectum, and at times bleeding profusedly, the medical man has found himself, as a rule, very much handicapped in their treatment, owing to the want of any thoroughly reliable method to satisfy the exigencies of the patient, by procuring an early and lasting cessation of the pain and an ultimate total disappearance of the disease, and also during the treatment to obtain at all times a soft and painless stool. I have for many years used all kinds of astringent and sedative suppositories introduced into the rectum, and given internally, in milk, in water, or in very weak tea, a powder composed of pot. bicarb, gr. x.; pulv. guaiac., gr. x.; et lac. sulph. gr. v., with more or less beneficial results.

However, in January, 1899, I became acquainted with Anusol Suppositories, in which we have practically a specific for hæmorrhoids, and various other diseased conditions of the rectal mucous membrane.

Women when pregnant, and after parturition, are often troubled with constipation, piles and painful defecation, for which Anusol has been repeatedly found of the greatest service

In another obstinate and frequently intractable complaint, the oxyuris vermicularis of children, and of adults also, and in pruritus vaginæ, Anusol Suppositories generally effect a radical

cure. In sores, too, of the external skin, whether of infants or adults, in intertrigo and prurigo, rubbed into the affected parts the suppository is an infallible remedy.

Space will not permit me to dwell too long upon the cases which I have treated with benefit by means of the Anusol Suppositories, but I will briefly give a summary of some cases in which a permanent cure has been effected by this remedy.

CASE. 1.—G. W., journalist, aged forty-eight, had suffered severely from bleeding piles for the last three years, which affected both health and temper. He came under my treatment on March 4th, 1902, when I put him on two Anusol Suppositories daily for the first four days, and one at bedtime for the next four days, with the most satisfactory result. The stools became soft, pappy and painless, and the piles disappeared altogether, and have not since returned. His general health also has very much improved.

CASE II.—H. T. M., aged forty, Paris correspondent to one of the great daily newspapers, suffering from hæmorrhoids of long standing and great severity, and accompanied with pruritus ani, came to me for the first time on January 30th, and I ordered him to use one Anusol Rectal Suppository each night at bedtime, and gave him a mixture of euquinin, hyoscyamus and digitalis. On April 30th he had completely recovered, and was able to return to his employment, but continued for a short time to take a 5 grain euquinin tablet three times a day, to prevent any return of the weakness. He had previously been in the Hereford Hospital in Paris, and in another in this country, but did not get much relief until he began using the Anusol Suppositories.

CASE III.—Mrs. A., after parturition, suffered from a large hæmorrhoid, accompanied by prolapsus ani; the only treatment was warm bathing of the affected parts, with the use of Anusol Suppositories twice daily for six days, when they were discontinued, as they were no longer required, and there has since been no return of the complaint.

CASE IV.—M. H., aged fifty-three years, insurance agent, suffering from piles of great severity and sensitiveness, with pruritus ani, after a great variety of treatment, hospital and private, was treated by me for a fortnight with Anusol Suppositories and ichthyol pills, one every four hours with entirely satisfactory result, and no subsequent return of the malady.

The entire question of the treatment of hæmorrhoids can be summed up in one sentence: Procure regular passages from the bowels. This object can be thoroughly attained by the regular, systematic use of Anusol Suppositories. In the event of a threatened relapse, the further use of two or three of the Anusol Suppositories will prevent its recurrence.

TYPHOID FEVER.

(From "The Experimental Diagnosis, Serotherapy and Prophylaxis of Infectious Diseases," by Staff Physicians, Dr. E. Marx, Vol. xi, p. 51 Bibliothek von Coler, 1902)

The typhoid bacillus usually makes its exit from the body in the fæces, but in rare cases also in the sputum. The latter mode of excretion probably does not in general play a great role in effecting the spread of the disease; but just on account of its rarity it is likely to be overlooked, and hence, when it does occur, is a dangerous source

of infection to surrounding individuals. Of the very greatest importance, however, being certainly the chief means by which contagion is transmitted, are the bacilli which are in numerous cases excreted with the urine. This fact was discovered by Hueppe and Seitz as long ago as 1886, and has been frequently confirmed; but its epidemiological importance was first realized only by Petruschky. The latter showed that in one case 1 cubic centimeter (¼ dram) of urine contained more than 170 millions of typhoid bacilli; and he calculated that in that instance the daily excretion of the micro-organisms amounted to 200 milliards of bacilli.

The most stringent disinfection of the stools, the sputum, and above all, of the urine, is absolutely necessary in every case of typhoid fever. And since the investigations of Neufeld have shown that in some cases the excretion of typhoid bacilli persists during convalescence and even for weeks after recovery, we are compelled to regard the urine as infectious in all cases until a careful bacteriological examination has demonstrated the absence of the micro-organisms. The premature dismissal of a patient in whom the bacillary excretion has not ceased, constitutes a grave danger and may be the cause of a recrudesence of a typhoid epidemic.

Neufeld confirms Richardson's assertion that the employment of Urotropin 5 grams (75 grains) in 150 grams (5 ounces) of water, in tablespoonful doses three times a day for three weeks renders the typhoid urine germ free. And since Schumberg has shown that the Urotrophinized urine as such inhibits the development of the typhoid germ, the cessation of the bacteriuria can only be accepted as a fact when the bacilli are no longer found after the remedy has been discontinued for a considerable period of time.

TYPHOID FEVER.

BY PROFESSOR C. GERHARDT, BERLIN.

(From *Therapie der Infectionskrankheiten*, Vol. X 1901; Bibliothek von Coler.)

URINARY PASSAGES.

Probably in most cases of typhoid the urine, from time to time, contains small quantities of albumin. Where it is present, typhoid bacilli generally also appear in the excretion; and with this the development of nephritis, pyelitis and cystitis is intimately connected. Nephritis may appear as an early symptom or in any later stage of the disease, and render the employment of cold baths and douches impossible. We must then restrict ourselves to cold applications to the head and chest, and lukewarm baths, together with a non-irritating diet. If possible, milk with perhaps a little tea is to be the chief nutriment, alternated with vegetable food. Wine is only to be given sparingly, in case of necessity. Later on the usual treatment with milk diet, sweat baths, tannin, uva ursi, tincture of the chloride of iron, etc., can be employed. Pyelitis and cystitis usually appear as sequellæ, and can be cured with considerable certainty by the administration of Urotropin in doses of 0.5 to 1.0 gram (7½ to 15 grains) twice daily.

Writing from Professor Pribram's First University Clinic at the German University at Prague, "On the Action of Urotropin in Typhoid Bacteriuria," Dr. Ernst Fuchs states that he was incited to his experiments by the contradictory results reported from the em-

ployment of this drug for controlling the urinary excretion of the pathogenic organism in enteric fever. His conclusions are as follows:

Of the forty-one typhoid cases examined, excretion of bacteria in the urine occurred in fourteen. In four cases it was so slight that it could not be recognized microscopically; and the bacteria were certainly not typhoid organisms. In six cases there was a large excretion of bacteria which were not typhoid germs. In one of these six cases colibacilli were excreted, in another cocci, and in the remaining four bacteria of an undetermined variety, but positively neither typhoid nor coli organisms. Four of them took Urotropin without any noticeable effect upon the symptom.

In four cases, being 9¾ per cent. of the total number examined, there was a massive excretion of undoubted typhiod organisms. In one lethal case this occurred whilst the fever was still present; in the others it appeared with or shortly after the setting in of apyrexia. The bacillary excretion was very great from the moment that it set in. In one case there was a fairly large quantity of typhoid bacilli in the urine six weeks after the termination of the fever.

Urotropin was administered in two cases for a considerable time, and in one case for one day only. In all three the amount of excreted organisms fell very considerably on the very next day after the first administration of the drug; but it soon increased again when the remedy was discontinued. The acid reaction of the urine did not interfere with the action of the Urotropin on the typhoid bacteriuria.

It would appear from these experiments that Urotropin only has a favorable effect when the excreted organisms are typhoid bacilli. Its action is not strictly antiseptic; it rather inhibits bacterial growth. Hence it should be given to typhoid convalescents suffering from bacteriuria for long periods of time; in fact, until the bacteriuria disappears completely.—*Abstracted from the Weiner klinische Wochenschrift, February 13, 1902.*

CLINICAL NOTES ON THE USE OF UROTROPIN IN PYURIA.*

BY FREDERICK FENTON. M. D., C. M., Lecturer in Histology, Trinity Medical College (*Dominion Medical Monthly*, Toronto, May. 1902.)

I have here the notes of three cases which I have selected, owing to their diversity, which illustrate very markedly the influence of Urotropin as a genito-urinary antiseptic.

CASE 1. Mrs. A. H., aged thirty-nine. The subject of chronic interstitial nephritis of several years' standing. In September last she suffered from an acute pain in the right lumbar region, which radiated round the right flank and down into the pelvis. The temperature and pulse were both elevated. There was a marked pyuria, especially in the morning, the pus lessening very much toward night. There were no red blood corpuscles in urine, but some epithelial cells, and a few hyaline and granular casts. Three attempts were made to secure an X-Ray picture of the region, with the hope of demonstrating calculus, but without result. The bladder was explored, both with sound and cystoscope, without finding anything to account for symptoms. Patient would not hear of exploratory operation. Urotropin was given in 10-grain capsules, four times

*Read before the Toronto Clinical Society, May 7, 1902

a day, and was followed in the course of five or six days by the disappearance of pus from the urine.

On one or two occasions since she has had attacks of the old trouble, which have promptly responded to the same treatment. For the last four months she has been free from these attacks, and greatly improved in health.

CASE 2. A. W. R., aged twenty-two. About 10th of December last was seized with pain in the back, which lasted for a few days, and was associated with, and followed by, a cloudy condition of the urine. Patient says he has never had gonorrhœa, nor could anything be found, either before or after passing a sound, by local examination, or with the microscope, to lead me to believe otherwise. No stone was found in bladder. Urine was filled with pus, as demonstrated by chemical and microscopical means. Reaction, faintly acid; specific gravity 1018; no casts or red blood corpuscles, but a few epithelial cells. Filtered urine showed no albumin, but a very marked precipitate of phosphates on boiling. Patient was given Urotropin in same manner as Case 1, on December 27th. On the 29th he reported himself as very much better. Urine has become steadily clearer since beginning the capsules, until a sample passed in my office two days later after beginning the drug, is absolutely clear and without deposit. The sample was peculiar, however, in that the specific quantity was only 1001, and without odor or appearance of urine. At a subsequent examination, the urine was found normal in every respect.

CASE 3. R. S., aged seventy-six. A very feeble old man, with marked arterial degeneration. For a long time he has had pain and difficulty in passing water, with frequent nocturnal micturition. Examination per rectum showed a markedly enlarged prostrate gland. The urine was dirty, and contained large quantities of blood-stained mucus, which adhered tenaciously to the vessel, and appeared to have much to do with his difficulty in passing water. The microscope showed pus cells in large quantities, epithelium in great amount, and a considerable number of red blood corpuscles, with a very few granular casts. Filtered urine gave a trace of albumin. He was ordered four 6-grain capsules of Urotropin, and bladder irrigation twice daily. The latter was never carried out, the attendant being unable to pass the catheter. Returning in a few days and finding marked improvement, I determined to omit the washing, and see what the medicinal treatment would accomplish, unaided by local means. Within a week from the time Urotropin was begun the urine was infinitely better, the blood having disappeared, the mucus very small in amount, while the sample was almost clear to the naked eye. The treatment was continued for two weeks longer, when only the merest traces of pus could be found with the microscope, while the mucus was only seen as an occasional thread. The patient is no longer bothered with frequent desire to pass water, and tells me that the urine which stands over night is as clear and free from deposit as in his younger days.

Dr. J. Odery Symes, in a paper on "Urotropin in Urinary Infections" published in the *Bristol Medico-Chirurgical Journal*, March, 1902, says:

"In bacillura Urotropin has a speedy and permanent curative action, because here the micro-organisms are swimming freely in the urine, which

is acid when excreted, and remains so throughout the duration of the disease.

"In pyelitis and pyelonephritis, although Urotropin generally relieves the symptoms, in none of personal cases, tubercular or non-tubercular, did a cure result. The chief reason for this is that in these cases the invading organisms are deeply embedded in the tissues, and so cannot be reached by the drug. Another possible reason may be that in acute pyelitis and pyelonephritis the urine is sometimes alkaline, and the complex antiseptic body is consequently not present.

"The best results with Urotropin are seen in cases of cystitis secondary to enlargement of the prostate.

"Cases of cystitis secondary to gonorrhœa do not do well on Urotropin. The symptoms are relieved, and the patient continues to take the drug because of the relief; but in two personal cases, in which the urine was originally alkaline, it was possible to detect organism in the acid urine after the drug had been taken more or less steadily for in one case five, and the other six, months. Cessation from Urotropin in such cases generally means a return of the symptoms.

"Cystitis due to bacillus coli, accompanied with acid urine, such as is seen so frequently in women, does not yield readily to Urotropin, probably because this organism is peculiarly resistant to the drug.

"Urotropin should be given in doses of 10 grains four times daily, the last dose on going to bed at night."—*The Monthly Cyclopaedia of Practical Medicine*, May, 1902.

No physician an afford to be indifferent in the filling of his prescriptions.

THE CORONATION OF KING EDWARD VII., AND THE PARDON OF MRS. MAYBRICK.

The postponement of the coronation of King Edward by reason of the serious illness of the King, gave rise to great excitement and apprehension on this side of the Atlantic.

His recovery and convalescence were watched with great apprehension and interest, and his coronation gives great personal gratification to our people as well as to our English cousins.

It shows that the heart of the American people beats in sympathy when a menace or danger threatens that country.

We rejoice that he has convalesced so rapidly, and we are glad, indeed, that the cloud that hung over the horizon of the English nation has been removed.

It was hoped by many that this event would be followed by an exercise of clemency by the English Government towards our countrywoman, Mrs. Maybrick, whose innocence is beyond doubt or question in the minds of the great body of our people.

King Edward is, as it seems to us, powerless in the matter.

By the English Constitution, the King of England has the royal prerogative of pardon.

That he has the constitutional right to claim and exercise this prerogative would be acknowledged by every jurist in England.

That he has not decided to exercise the rights given him in this regard, is plainly apparent.

When his mother surrendered this prerogative, as a young girl before her majority or marriage, it was construed by the rulers of England as a formal

surrender on the part of the throne of the right to exercise it.

During the long reign of Victoria, of more than sixty years, she never once exercised it.

The present Home Office system has grown up in the interim and has become, so to say, one of the institutions of the English Government.

Any attempt on the part of the throne to assert its right to the royal prerogative of pardon, would be resisted by the men who really govern England, and the people of England would sustain the Government and be against the throne on such an issue.

The constitution of England gives the throne the power of veto of an act of Parliament.

No one would for a moment dispute the legality of the veto of the throne to defeat any measure.

Such a veto has not been cast for more than a century.

Such a veto could not now be cast, or maintained if it was cast. No minister in England would dare to counsel such a veto of a measure against the known will of the English people.

The veto power of the English throne is a fiction.

The pardoning power to be exercised by the Crown is also a fiction. It no longer exists, and it will never be again exercised in England.

The pardoning power is vested in the Home Minister, and he is responsible to no one and to no authority, not even to Parliament.

He is supposed to be responsible only to public sentiment and public opinion.

When he decides to pardon, the legal fiction is that it is announced that the Home Secretary had advised the throne to pardon, and the writ issues from the Home Office.

England stands alone among all the nations of the world in this regard. In. all lands, except England the pardoning power vests in the Executive of the Government.

Not one English colony that has created laws regulating the exercise of this power has followed her example.

There is no parallel in the history of jurisprudence in any country where such an extraordinary withholding of the pardoning power has been exercised by a government, against a citizen of our country, over the constant and unremitting remonstrance of a government, whose executives have, one after another, urged the exercise of the pardoning power, and when in the case of President McKinley, he asked it as a question of international comity, quite irrespective of her innocence or her guilt. All the American Presidents have believed her innocent of the crime with which she was charged, in common with the great body of the American people.

The late Chief Justice of England placed on record on the files of the Home Office, in the strongest possible language, his opinon and belief that she ought never to have been convicted, and that she should be released, and before his death placed in her hands a letter written on the letter-heads of the head of the Judiciary of England, his convictions as to the illegality of her conviction and detention, to which the English Home Office gave no heed.

The continued imprisonment of Mrs. Maybrick, under all the circumstances that surround this case, is a stain upon the administration of justice in England, and is unparalleled in the whole jurisprudence of modern civilization.

King Edward VII. is in no wise responsible for the situation.

The friends of Mrs. Maybrick well know where his sympathies lay in her case, but as Prince of Wales he was powerless.

As King of England he is now as powerless to even influence the Home Secretary, and for more than twelve years this American lady has languished in an English prison on the charge of poisoning her husband, when the most eminent men and alienists in our country have filed with the English Home Office their opinion, based upon a careful consideration of all the evidence taken at the inquest before the magistrate and upon the trial, that Mr. Maybrick's death was not due to arsenic, and the post mortem analysis showed that not enough arsenic was found in the body to warrant an assumption that the death was due to such a cause. (From advance sheets of *Medico-Legal Journal.*)

THE INJECTION TREATMENT OF REDUCIBLE HERNIA.

BY W. H. WALLING, M. D., PHILADELPHIA, PA.

The first point to be settled in the attempted treatment of a hernia by the injection method, is whether a given case be a suitable one for such method or not. The hernia must not only be reducible, but it must be easily retained in normal position by a truss, and the opening through which it emerges from the abdomen must not be too large. Many failures have resulted through a too ready acceptance of any and all hernias that presented themselves for treatment, regardless of their character.

The more recent the rupture, the more readily will it respond to treatment; but any hernia suitable for this method may be accepted.

The next most important point is in the use of a good fluid and its proper application, and the last is the careful following out, by the patient, of the directions of the surgeon as to the constant wearing of a truss; avoidance of all lifting, jumping, straining, violent coughing, or doing anything that would place any strain upon the parts.

Having decided that a hernia is a suitable one for the injection treatment, the first thing to be done is to fit the patient with a proper truss, one to be worn in the daytime and one at night. I used to allow patients to remove the truss at night, but as many became careless about putting it on before rising in the morning, I now insist upon a constant pressure being kept up, day and night, only allowing a more easy-fitting appliance for night use.

In the treatment of hernia by this method, eternal vigilance is the price of success, as, after making the first injection, the hernia must be kept in place at all hazards; not once allowed to appear, and the constant wearing of the truss must be insisted upon, and any truss that will thus retain it and at the same time be reasonably comfortable, may be worn. The daily washing of the parts with Resibol soap, applying the soap with the fingers and washing it off with the same, and drying the surface without rubbing it, gives very satisfactory results. Ointment of ozide of zinc may then be applied, a piece of absorbent cotton laid on and the truss adjusted over the latter. Some patients have worn a folded silk handkerchief under the truss; but such thick packing interfered with the proper pressure of the appliance.

The technique of treatment is as fol-

lows: First examine the patient in the erect position and determine as to the location, character and size of the hernia, and if found to be a suitable one for injection, place him upon the chair or table and fit the trusses, if a proper one be not worn. Then wash the parts with any good antiseptic invaginate the scrotum with the index finger and locate the external ring. One and a half inches above this, on a line with Poupart's ligament, and a little above it, lies the inner ring, through which all oblique inguinal hernias emerge from the abdomen, and they are the most commonly met with. The injection is to be made at that point. Use any good hypodermic needle and syringe, only seeing that the needle be of sufficient length, one and one-half inches or more. Thrust it into and through the skin and underlying tissues until you enter the ring, and there make an injection of from three to five or more minims, according to the strength of the particular fluid used. After making the injection, withdraw the instrument and gently massage the parts, adjust the truss and allow the patient to go his way. Repeat the operation every five to seven days according to the amount of reaction.

Care must be exercised so as not to puncture the cord, but as this may be felt under the finger, it can be avoided. A little experience will soon enable one to determine when the needle has been inserted to a sufficient depth, also to its proper direction, avoidance of the cord, etc.

The injection will cause more or less smarting or burning in the region, to be intensified by the pressure of the truss, but this will soon pass off. There will also be more or less swelling and soreness, but seldom sufficient to prevent the patient from attending to his ordinary duties. A certain amount of inflammatory action must be set up in order to effectually seal up the canal; but only sufficient to accomplish this purpose is needed, therefore a fluid that accomplishes this and no more, is to be preferred.

Some years since I devised and used a trocar and canula needle which was used by passing it through the scrotal wall, directly into the outer ring and thence along the canal to the inner ring; but I have obtained better results with a plain needle, going through the tissues, as above outlined, consequently the elaborate and expensive instrument was laid aside.

Heaton & Warren, of Boston, were the pioneers in this method of treating hernia, and they used the following formulæ:

No. 1.

Take of
Fluid extract of Quercus Alba, fl. oz 2
Reduce by evaporation to " 1
Add Alcohol, 90 per cent. drs. 2
Ether Sulph. " 1
Morpd Sulph. grs. ½
Mix.
Signa. Inject 8 to 10 minims.

No. 2. For old cases.

Take of
Fluid extract of Quercus fl. oz. 4
Evaporate to " 1
Alcohol, 90 per cent. drs. 3
Ether Sulph. " 2
Morphine Sulph. gr. 2
Mix.
Signa. Inject 10 to 25 minims.

The originators secured some good results and some very unsatisfactory ones, as in many instances so much irritation was set up that life was endangered. They made quite a fortune from the business, however. Others have used tincture of iodine, carbolic acid, solution of sulphate of zinc fluid,

extract of hammemelis, thuja, etc., etc., with varying results.

One formula, published in *The Medical Brief*, of December, 1898, is as follows:

Take of
Zinci Sul. grs. 15
Alcohol, drs. 2
Carbolic Acid (crystals?) grs. 30
Aquæ q. s. ad. fl. oz. 1
Mix.
Signa. Inject 5 to 10 drops.

This is a sample of the injection fluids as generally used. It sets up a severe inflammation, and if used at all, it should be with great care. Several deaths have been reported following the injection of some of the fluids of this character.

The writer unfortunately obligated himself not to publish the working formula of his fluid; but it contains:

Complex salts of Aldehyde, Sulpho-Tannate of Zinc, Guaiacol, Creasote, etc., and is absolutely safe in use.

As to the percentage of cures it may be said that they compare favorably with the so-called radical, or surgical methods.

The number of injections required will vary from three to twelve, depending upon the skill of the operator, the condition of the hernia and the care exercised by the patient. By accepting only such subjects as are suitable for this method of treatment, the use of a good fluid, its proper introduction and the intelligent co-operation of the patient, every operator should cure every case thus accepted and treated.

As to fees: The charges may vary according to circumstances, but a medium may be stated as being $50, with a range on either side at the discretion of the surgeon. I find it better to collect the fee in advance, in all cases. Your patient will attend for treatment and will follow your instructions much better if he has paid for the course, and you are sure of your reward.

It is also better not to give any guarantee as to cure. So many factors enter into these cases that no more certainty can attend the injection, than any other method of treatment; and when a patient asks for a guarantee, I reply by asking him if he ever knew a reputable surgeon to give such positive assurance in any case. This satisfies them as a rule, if not, I let them go.

Femoral hernia will be treated upon the same general plan, the effort, in each and every case being to place the fluid so as to close up the opening through which the hernia protrudes.

Umbillical hernias are not amenable to this form of treatment, there being so little tissue to act upon. In the inguinal canal, the walls being in close proximity and the tissues being dense, good results may be obtained. (*Reprint* from *Alkaloidal Clinic*).

Katherine L. Ball, of San Francisco, is dead of starvation, resulting from self-imposed fasting. Mrs. Ball was about 50 years old and was exceedingly stout. Her weight shortly before her fast commenced was 250 pounds, and her increasing bulk caused her much worry. On the advice of Dr. J. C. Anthony she undertook a fast that was to last 50 days. At the end of 15 days Mrs. Ball had lost 40 pounds, but she felt strong and had not the slightest craving for food. On that day, too, she climbed three flights of stairs without stopping for breath, a feat that she had not accomplished in many years. Until the twenty-first day Mrs. Ball's improvement continued. She

became stronger and more active. She talked constantly of her marvelous fast and often expressed her intention of keeping it up for 50 days. But the endurance of her constitution had been put under too severe a strain. On the forty-fifth day of the fast members of the family sent for another physician. She was induced to break her fast by taking light food and strengthening medicines. Trained nurses were employed and strenuous efforts were made to restore her strength, but failed. The body is that of a frail, emaciated woman. At the time of her death Mrs. Ball weighed not more than 120 pounds.

MALIGNANT GROWTHS.

H. G. BULLARD.

In November, 1901, I had under my care a case of recurrent malignant disease presenting the following history:

Female, age fifty-seven, in early life a school teacher, later a hard working farmer's wife. Three years before this date removed from the right breast a sarcoma. One year later a tumor presenting every indication of malignant growth was removed from the right side of the nose, and at the same time a small recurrence in the breast scar. After two years relief from any manifestation, in the summer of 1901 I removed another growth from the left cheek, with good results so far as this scar tissue was concerned, but about an inch from the last scar there appeared another growth which slowly increased in size. A tumor was found, circular in shape, one inch in diameter and half an inch thick, two inches below the middle of the left clavicle. This was undoubtedly a gland involved. Thus by the history we are perfectly assured of the existence of malignant disease, although it is regretted that the microscope was not employed to verify the same. Still, with such a continuous process, with recurrence in and around scar tissue, there can be absolutely no doubt as to the nature of the diseased process. After the final recurrence, the patient, discouraged at the use of the knife, had suggested by friends the use of caustic, plaster, etc. I satisfied her, using nitrate of silver with apparent success for a while, but the disease reappeared soon. In December, 1901, my attention was called to the "Alexander Treatment," and after investigating it, it appealed to my patient as worthy of a trial, and about the 20th of December I placed this patient under its use. Within a short time I was much gratified to see a diminution in the size of the neoplasm and a general improvement in the condition of my patient. There was emphatically noticed a tonic result and the relief of what had been a troublesome condition, sleeplessness. Within a period of about six weeks, the growth, which was a disagreeable condition, had healed over, the surrounding tissue was softer, and not so large in area. The scar tissue near by had lost its pulling, itching sensations and this was true also of the breast scar tissue, and the improvement both mental and bodily was quite well marked. In my notes of January 19, 1902, I find the record that "the patient is eating and sleeping as well as ever in her life, nervousness had disappeared and life generally looks brighter to her. The scar tissue is gradually assuming a whiter hue and the hardened tissue around the cancerous growth is less extensive and much softer." Under date of February 22d my records

show me that all scar tissue is very decidedly faded and the other manifestations of malignant disease have every appearance of being arrested. An increase of weight has been noticed as steady since the beginning of the treatment.

The injections of the "Alexander Fluid" were made into the loose, healthy, cellular tissue of the body, preference being given to that region that was immediately adjacent to the disease itself. Its action was apparently tonic in its manifestation and it certainly caused a gradual, yet general, fading of the inflammatory look to the malignant centers and the adjacent indurated territory, with a shrinking of the growth itself, and occasioned no undue disturbance unless where accidentally injected into blood vessels direct, when it provoked sensations of giddiness, dizziness, which lasted but a little while. The general effect on the appetite and nervous system was pronounced and favorable, the patient being less and less nervous, eating and sleeping better than ever before, with a general increase in weight.

This patient, placed under the "Alexander Treatment" on the 20th of December, 1901, is, on the 5th day of May, 1902, free from any return of malignant symptoms, proclaims herself as well as ever and practically is so, and in my opinion such conditions could not have been attained under the ordinary procedures.

Our many subscribers are invited to send to us reports of cases that they believe will be of interest to the readers of this Journal. We are always glad to print news that will add to the interest of the profession. Send all articles to Dr. Parsons, Dorchester, Boston.

OBSERVATIONS WITH A SUBSTITUTE FOR MORPHINE.

BY DR. L. NIED, PHYSICIAN TO THE ST. ELIZABETH HOSPITAL, VIENNA.

From the extensive literature that has been published on heroin it can be seen that the preparation has awakened great interest, and I would emphasize right here that this, according to my own experience, is fully justified. The drug possesses so many advantages, especially as a sedative for coughs, that it doubtless will gain a permanent place in the materia medica.

In the division of the hospital with which I am connected I have had occasion to test heroin, especially in pulmonary tuberculosis and bronchitis, and have been much pleased with the results. In all cases it produced a prolonged sleep, which was especially appreciated by the patients. Unpleasant by-effects were never observed, although single doses were frequently increased to 1-6 grain. It is, of course, always proper to be somewhat cautious and to begin with small doses, but I do not believe that 1-12 grain will ever produce ill-results. As Wiesner has pointed out, if we should discard all preparations which, under certain circumstances, in too large doses, might be dangerous, our materia medica would be much restricted, for we would have to dispense with such established remedies as digitalis, nux vomica, and opium, and again resort to harmless and inert herbs.

In the following I have selected from the large number of cases treated by me with heroin, a few especially instructive examples which will serve to elucidate its action.

Case I. A. T., 16 years old, pulmonary tuberculosis, received in the evening two powders of 1-12 grain each of heroin, after which the obstinate cough and dyspnea subsided.

Case II. A. B., 56 years old, pulmonary tuberculosis, was given 1-6 grain of heroin at night for the relief of violent cough and dyspnea, this being followed by relief for the entire night.

Case III. A. T., 52 years old, pulmonary tuberculosis, received 1-6 grain of heroin at night. The existing cough, dyspnea, and marked palpitation of the heart diminished considerably, and the patient enjoyed a good sleep.

Case IV. A .M., 30 years old, chronic catarrhal bronchitis, received in the evening two powders of 1-12 grain heroin at intervals, after which the cough became less and the mucus was more readily expectorated.

Case V. M. J., 45 years old, chronic catarrhal bronchitis, was treated with heroin in the same manner, and obtained good nights' rest and relief from the cough, dyspnea, and cardiac palpitation.

Case VI. A. S., 52 years old, acute catarrhal bronchitis, took 1-12 grain of heroin, three times daily, and one-sixth grain at night, after which the violent cough subsided and the cardiac palpitation were diminished.

Case VII. J. B., 42 years old, cardiac lesion. The patient was given 1-12 grain of heroin, four times daily for an irritating cough, which under its use became much lessened, and as the palpitation also diminished he was able to enjoy a sleep of several hours' duration.

Case VIII, T. L., 55 years old, dry pleurisy, was given 1-6 grain of heroin at night for the relief of the lancinating pain in the side, and derived marked relief.

Case IX. J. M., 59 years old, Bright's disease, took 1-12 grain of heroin, four times daily, for the relief of pains in the kidney, and with excellent results.

Case X. A .P., 17 years old, chronic catarrhal bronchitis, received 1-12 grain twice daily and 1-6 grain at night, the severe cough and dyspnea being promptly relieved.

Case XI. J. S., aged 23 years old, suffered from acute bronchitis with harassing cough, dyspnea, cardiac palpitation, and pains in the chest. These disappeared after the administration of 1-12 grain of heroin, four times daily.

In the cases observed by me, heroin was used exclusively in the powder form and was preferred to the hydrochloride, which, however, owing to its easy solubility, is well adapted for subcutaneous injection. In heroin we have gained a remedy which may be considered a decided acquisition to the materia medica, since in most instances it acts promptly and reliably in small doses without disagreeable by-effects and the risk of habituation.—*Deutsche Med. Wochenschrift.*

Boston Medical and Surgical Reporter, by Hugo Engel, A. M., M. D. The author says: "Antikamnia has become a favorite with many members of the profession. It is very reliable in all kinds of pain, and as quickly acting as a hypodermic injection of morphia. It is used only internally. To stop pain one five-grain tablet is administered at once; ten minutes later the same dose is repeated, and if necessary, a third dose given ten minutes after the second. In 92 per cent. of all cases it immediately stops the pain." Farther on, Dr. Engel compares Antikamnia with the other coal-tar derivatives. He says that while some of these are valuable remedies for the relief of pain, "not one of them is so certain in its effect in comparatively as small a dose and so prompt in giving relief as Antikamnia in every kind of pain." This uniformity in its action leads him to believe that Antikamnia possesses properties differing from the other coal-tar products, while it is certainly free from danger, if given in anything like reasonable quantities, which is not the case with other products from coal-tar. Five-Grain Antikamnia Tablets afford the most accurate and convenient form for administration.

OBITUARY.

Dr. T. H. Phillips, a well known physician of North Cleveland Ave., Canton, Ohio, died suddenly at his home, at 6:16 p. m., on Saturday, Aug. 30, 1902, of heart disease.

He was the physician of the President and Mrs. McKinley and of the family of the Ex-Secretary of State, W. R. Day.

He made a call at the Day residence a few minutes before he died, being taken sick while there. Death was due to œdema of the lungs, produced by heart disease.

Dr. Phillips was born at Canonsburg, Pa., March 25, 1839, and was sixty-three (63) years of age.

He received his literary education at Jefferson College, Canonsburg, Pa., and was graduated in medicine at Jefferson Medical College, Philadelphia, Pa., in 1864.

He served as a contract surgeon in the Civil War, was with Sherman in his march to the sea, and saw active service in many of the big battles of the Southern campaign and at Gettysburg.

He came to Canton in 1869 and has been continuously engaged in practice there since that time.

He was a member of the American Medical Association,The Stark County Academy of Medicine and Union Medical Association of North Eastern Ohio.

PAMPHLETS, REPRINTS, ETC.

Report of the Board of Health for the Philippine Islands, May, 1902.

Report of Board of Health for Los Angeles, Cal., July, 1902.

The Conservative Treatment of Appendicitis and Fallacy of the Starvation Cure. J. H. Carstens, M. D., Detroit, Mich.

The Rational Treatment of Movable Kidney and Associated Ptoses. Ernest Gallant, M. D., N. Y.

Autumn Announcement of New Books to be published during the Fall, by the Macmillian Co., N. Y.

Movable Kindeys; Their Effect upon the Gastric and Intestinal Functions.

The Place of Drugs in the Treatment of Stomach Troubles.

The Influence of some of the Com-

moner Drugs upon the Gastric Functions.

One Morning's Work with Stomach Cases. All by Boardman Reed, M. D., Philadelphia.

Anatomy and Physiology of the Eye, with Hints for the Preservation of the Eye-Sight. By J. Frederick Herbert, M. D., Philadelphia.

Differentiation and Diagnosis of Tuberculosis and Phthisis. By M. J. Brooks, M. D., New Canaan, Conn.

The Therapeutics of Sub-Acute and Chronic Heart Diseases. By Thomas E. Satterthwaite, M. D., N. Y.

Superheated Compressed Air in the Therapeutics of Chronic Catarrhal Otitis Media. By George W. Hopkins, Cleveland, O.

Appendicitis. John B. Deaver, M. D., Philadelphia.

Medical Education. John B. Deaver, M. D., Philadelphia.

Pueperal Fevers from a Surgeon's Standpoint. By Emory Lanphear, M. D., L. L. D., St. Louis, Mo.

Annual Report of the Essex County Hospital for the Insane, Newark, N. J., for the year ending, April 30, 1902. D. M. Hill, M. D., Medical Director.

Twenty-sixth Annual Report of the Managers and Officers of the New Jersey State Hospital at Morris Plains, for the year ending October 1st, 1901. Britton D. Evans, M. D., Medical Director.

CHANGES IN THE MEDICAL CORPS OF THE NAVY.

Week ending August 23rd.

August 15. P. A. Surgeon E. O. Huntington, granted sick leave for three months.

August 16. Surgeon George A. Lung, ordered to the Bureau of Medicine and Surgery, Navy Department.

Week ending August 30th.

August 22. P. A. Surgeon, W. H. Bell, detached from the Chesapeake, and ordered to duty as a member and recorder of a Board of Medical Officers, Navel Academy, Annapolis, Md., and thence home and to wait orders.

August 26. P. A. Surgeon, F. L. Benton, part of order of May 27th, detaching from Columbia, revoked.

Week ending September 6, 1902.

August 30. Surgeon N. H. Drake, detached from the Mare Island Navy Yard and ordered to the "Solace."

Surgeon W. R. DuBose, detached from the "Solace," upon reporting of relief, and ordered home and to wait orders.

Assistant Surgeon W. H. Ulsh, ordered to the Washington Navy Yard for examination, and thence home and to wait orders.

September 2. Medical Director R. A. Marmion, detached from duty as president of the medical examining boards, Washington, D. C., and ordered to duty as president of the naval medical examining board and to duty in charge of the Naval Museum of Hygiene and Medical School, Washington, D. C.

Medical Director G. P. Bradley, upon completion of duty as a member of the board for the examination of midshipmen, detached from the Naval Museum of Hygiene, Washington, D. C., and ordered to duty as a member of the medical examining board and naval retiring board, Washington, D. C.

September 3. Surgeon R. M. Kennedy detached from the "Franklin," and ordered to the torpedo station, Newport, R. I.

Assistant Surgeon J. J. Snyder, detached from the torpedo station, Newport, R. I., on reporting of relief, and ordered to the naval hospital, Philadelphia, Pa.

September 4. Surgeon E. O. Huntington, order of August 15, modified; detached from the naval hospital, New York, and ordered home in obedience to order referred to.

LEVULOSE.

Dr. R. Lepine, Professor in the Medical Faculty of Lyons, contributes an important article to *La Semaine Medicale of* April 3, 1901, on "Alimentary Levulosuria in its Relations to Affections of the Liver." He calls attention to the fact that in the same journal (p. 425, 1900) he advocated the administration of a small quantity of saccharose to certain diabetics, say 50 grams (12 drams) daily; the 25 grams (6 drams) of glucose contained therein is but a small quantity of the harmful sugar, and the less than 25 grams (6 drams) of Levulose is an amount that is perfectly well tolerated by certain diabetics.

He admits that there appears to be something paradoxical in the fact that Levulose is better tolerated than glucose by some diabetics; for the normal organism appears to assimiliate glucose better than Levulose. The difference is not a great one, but it seems to be very real. It is explained by the important discovery made by Minkowski to the effect that after the removal of the pancreas in dogs, the liver is incapable of making glycogen with glucose, whilst it can still do so with Levulose. This explains the tolerance of the organism to this last sugar; it is not assimilated, but is transformed and stored up, at least in part. In consequence of this transformation and storing up in the liver, only a fraction of the Levulose ingested reaches the arterial circulation. This is not the case with glucose, which, thanks to the rapidity of its absorption and to its non-transformation into glycogen, in most diabetics reaches the major circulation *en masse*.

Minkowski's experiments have placed it beyond doubt that the liver of animals rendered diabetic by the removal of the pancreas more or less loses the power of storing up glucose in the glycogenic state, whilst it preserves that of transforming and storing up Levulose. A healthy liver, however, is indispensable, and since all diabetics do not have that, it will be understood why some of them do not stand Levulose well. It also explains why in certain hepatic affections, and in cases of functional insufficiency of the liver, an alimentary glycosuria can be more readily set up with Levulose than with glucose.

In a case of cancer of the liver with obliteration of the ductus choledochus which was recently in Lepine's service, and in which the diagnosis was later confirmed by the autopsy, this was well seen. One hundred grams (3 1-3 ounces) of pure glucose never caused a consecutive glycosuria, though repeatedly administered; whilst 80 grams (2 2-3 ounces) of Levulose and 20 grams (5 drams) of glucose effected a marked levulosuria, several grams of the material being eliminated. This accords with the observations of von Noorden and H. Strauss, to the effect that icterus and various affections of the liver are conditions unfavorable to the production of alimentary glycosuria. It is also in harmony with the experimental fact that in animals deprived of their liver the tolerance for glucose is hardly diminished.

FOUR HUNDRED DOLLAR PRIZE.

Dr. J. B. Mattison, Medical Director, Brooklyn Home for Narcotic Inebriates, offers a prize of $400 for the best paper on the subject:

Does the habitual subdermic use of morphia cause organic disease?

If so, what?

Contest to be open two years from December 1, 1901, to any physician in any language.

Award to be determined by a Committee: Dr. T. D. Crothers, Hartford, Conn., Editor Journal of Inebriety, Chairman; Dr. J. M. Van Cott, Prof. of Pathology, Long Island College Hospital, Brooklyn, and Dr. Wharton Sinkler, Neurologist to the State Asylum for the Chronic Insane, Philadelphia.

All papers to be in the hands of the Chairman, by or before 1 December, 1903; to become the property of the American Association for the Study and Cure of Inebriety, and to be published in such journals as the Committee may select.

In a brochure on "The Formaldehyde" (Second Edition, N. G. Elwert sche Verlagsbuchhandlung, Marburg, 1901), Dr. Otto Hess, Chief Physician of the Medical Clinic of Marburg University, refers to the many formaldehyde generators which depend upon the incomplete combustion of wood alcohol for the production of formaldehyde gas and which have proven entirely insufficient, stating on page 49:

"The main reason for the failure of these lamps is that they produce far too little formaldehyde. According to Struver and Brochet, only 5 to 10 per cent. of the wood alcohol employed are changed by the combustion to formaldehyde, *90 to 95 per cent. of it being lost as carbonic acid and water.*

"Another disadvantage of these lamps is the production of carbonic oxide gas, which is created by every incomplete combustion. The quantity of same, according to Brochet, is 3 to 5 per cent. of the alcohol employed. Such a large quantity of CO gas in the air can cause disagreeable effects."

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